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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 72545-83	
		Application Number 10/822,440 Conf. #1434	Filed April 12, 2004
		First Named Inventor Wai Ming Choi	
		Art Unit 1771	Examiner Andrew T. Piziali
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a Notice of Appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> applicant /inventor. <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) <input type="checkbox"/> attorney or agent of record. Registration number _____ <input checked="" type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. <u>44,238</u> </div> <div style="text-align: right;">  _____ Signature _____ Lisa Adams Typed or printed name _____ (617) 439-2550 Telephone number _____ Dec. 13, 2006 Date </div> </div>			
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.			
<input type="checkbox"/> *Total of <u>1</u> forms are submitted.			

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Wai Ming Choi

Application No.: 10/822,440

Filed: April 12, 2004

Entitled: LOW DENSITY NONWOVEN GLASS
FIBER WEB

Docket No.: 72545-83

Group Art Unit: 1771

Examiner: Andrew T. Piziali

Certificate of Transmission (37 C.F.R. 1.8(a))

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Dec. 13, 2004

Date of Signature and Mail Deposit

By:



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Attorney for Applicant(s)

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COMMENTS FOR PRE-APPEAL BRIEF REVIEW

Dear Sir:

These comments are being filed concurrently with a Notice of Appeal, and a Pre-Appeal Brief Request for Review.

Independent claims 1 and 8 are rejected as being obvious over WO 01/43850 of Pierce in view of U.S. Patent No. 6,291,552 to Dong or U.S. Patent No. 4,523,995 to Pall, and further in view of U.S. Patent No. 6,420,024 of Perez et al. Independent claim 8 is also rejected as being obvious over Pierce, in view of Dong or Pall, and further in view of Perez and Head. Independent claim 13 is rejected as being obvious over Pierce in view of Dong or Pall. Independent claim 13 is also rejected as being obvious over Pierce in view of Dong or Pall, and further in view of Perez.

For each of the above-referenced rejections, the Examiner relies on Pierce to teach the claimed glass wool fiber web; Dong or Pall to disclose a fiber web formed from a slurry having a pH in the range of about 5 to 10 thereby obtaining a filter media that inherently possesses the claimed gamma value of about 14; Perez to disclose the claimed surface area; and Head to disclose the claimed apparent density.

Dong and Pall

At the outset, the Examiner's reliance on Dong and Pall to remedy the deficiencies of Pierce is erroneous. Applicant's assert that the specification teaches that the claimed gamma value is obtained by *adjusting* the pH from an *acidic pH* to a *neutral pH* during formation of the filter media. The Examiner disagrees and asserts that the "current specification fails to teach or suggest that the pH value must be *adjusted* to obtain the claimed gamma value," and thus a reference, such as Dong or Pall, that merely teaches a fiber slurry having a neutral pH of 5 to 10 is sufficient and will inherently produce a filter media having the claimed gamma value. (Advisory Action, emphasis added.)

The specification makes it clear that the claimed gamma value, as well as the surface area and apparent density, are obtained as a *direct* result of adjusting the pH from an acidic pH to a neutral pH during formation of the filter media. This is not only explained at paragraphs 0019, 0023, and 0024, but the Examples clearly prove that *adjusting* the pH from an acidic pH to a neutral pH will produce a filter media having the claimed gamma value of at least about 14. In particular, Example 1 illustrates the effects of *adjusting* the pH during formation of the filter media. As explained in paragraph 0034, a slurry was prepared containing a mixture of glass fibers, and the pH of the slurry was adjusted to a range of about 2.3 to 3.8. Three samples of fiber web were collected at a pH of 2.3, 3.6, and 3.8. The experiment was repeated containing the same fiber mixture, however the pH was *adjusted* to a range of between 4.3 and 10.3. Samples were collected at pH's ranging from 4.2 up to 10.4. The results are set forth in Table 1 of the specification. As shown, the samples collected at an acidic pH (i.e., samples 2.3, 3.6, 3.8, and 4.2) that was *not adjusted* have a gamma value of about 13. Conversely, the samples collected at a neutral pH (i.e., 6.7, 7.0, 8.0, 8.4, 9.2, 9.6, and 10.4) that was *adjusted* from an initial acidic pH have a gamma value that is 14 or greater. Thus, adjusting the pH of the slurry from an acidic pH to a neutral pH clearly improves the gamma value of the resulting filter media. Table 1 also shows a significant improvement in the apparent density (recited in claim 8) and the surface area (recited in claim 1) of the filter media as a direct result of adjusting the pH of the slurry.

Accordingly, the specification clearly shows that the claimed gamma value, as well as the surface area and apparent density, are a direct result of adjusting the pH of a slurry from an acidic pH to a neutral pH. Thus, in order for the cited references to inherently teach the claimed gamma value (Dong and Pall), as well as the surface area (Perez) and apparent density (Head), the references must teach a filter media that is formed from a slurry of glass wool fibers having a pH that is *adjusted* from an acidic pH to a neutral pH. The references, however, do not teach this, as explained below.

Dong discloses the use of a slurry ranging from about 5 to about 10, but fails to teach *adjusting* the pH from an acidic pH to a neutral pH. The fact that the slurry has a pH between 5 and 10 does not mean that the pH is *adjusted*. Since Dong fails to teach or even suggest adjusting the pH, Dong fails to remedy the deficiencies of Perez, and thus the combination of references does not teach a filter media that inherently has the claimed gamma value. Dong is also non-analogous art that cannot be combined with Pierce. In the Advisory Action, the Examiner asserts that Dong is in the field of applicant's endeavor which is wet laid methods of making glass fiber mats. Applicant continues to disagree. Applicant's endeavor is to provide a filter media having improved *filtration properties*, not to wet laid methods of making glass fiber mates. This is repeatedly set forth in the specification. Dong does not endeavor to provide any type of filter media, much less one that has improved filtration properties. To the contrary, Dong is directed to methods for making glass fiber mats that are specifically configured for use as roofing shingles, composite articles, polyurethane foam headliners, and reinforced plastics. There is no teaching or suggestion in Dong to use the fiber mats as filters. Dong is therefrom not within the field of Applicant's endeavor. Dong is also not reasonably pertinent to the problem being solved for similar reasons. Applicant set out to provide a filter media having improved filtration properties, such as a high gamma value, a high surface area, and a high apparent density. Dong is not pertinent to any of these problems, as Dong does not relate to the use of any type of filter media. No person having ordinary skill in the art of making filter media would rely on a reference directed to a fiber mat used for roofing shingles, composite articles, etc. to solve the problem of improving the filtration properties of a glass fiber web. Dong is therefore non-analogous art and cannot be relied on to formulate an obviousness rejection.

Pall is directed to a filter media that is formed by adding a binder to a fiber slurry, and adding a precipitating agent to the slurry to precipitate the binder and thereby coat the fibers in the slurry. Pall teaches adjusting the pH of the slurry to a neutral pH to increase the precipitation efficiency of the binder. However, Pall does not specifically teach a slurry having an *acidic* pH that is then adjusted to alkaline. The initial pH of the slurry could merely be neutral. Regardless, no person having ordinary skill in the art would be motivated to modify Pierce in view of Pall. As noted above, Pall teaches adjusting the pH of a slurry to increase the precipitation efficiency of a binder that is added to the slurry. Pierce does not precipitate a binder that is added to a slurry, but rather adds a binder to a fiber mat *after* the fiber mat is formed. The Examiner argues that it would have been obvious to add the binder of Pall to the slurry of Pierce before the mat is formed, and to also vary the pH of the slurry from about 7 to 10. Such a modification is improper and would require the teachings of Pierce to be ignored. Pierce and Pall are directed to entirely distinct processes to produce entirely distinct filter media. Pall's goal is to provide a filter media that can be

electrostatically charged. This is achieved by coating the fibers with a binder prior to formation of the filter media. Pierce is directed to providing a boron-free filter media, and does not use an electrostatically charged filter media. Thus, there is no need to coat the fibers of Pierce with a binder prior to forming the slurry. Pierce specifically teaches adding a binder to filter media *after* the filter media is formed, and no person having ordinary skill in the art would ignore the teachings of Pierce and modify Pierce to add the binder to the slurry, as taught by Pall.

Accordingly, neither Dong nor Pall remedy the deficiencies of Pierce, and thus claims 1-20 distinguish over the cited references and represent allowable subject matter.

Perez

The Examiner further relies on Perez to teach the claimed surface area. At the outset, the Examiner rejects claims 8 and 13 over Pierce, Dong or Pall, and Perez. Claims 8 and 13, however, do not recite a surface area, and thus the Examiner's reliance on Perez is improper. The only independent claim that recites a surface area is claim 1. As explained in Applicant's previous response, however, claim 1 distinguishes over the cited references because the surface area cannot merely be "set" to a specific value as desired. It has to be obtained. A person having ordinary skill in the art cannot merely rely on Perez to teach a certain surface area, and then merely decide to produce a filter media having that surface area. To the contrary, they would have to modify the process and/or materials based on the teachings of Perez to form a filter media having the desired surface area. The Examiner has failed to explain how Pierce would be modified in view of Perez to arrive at the claimed surface area, and has failed to provide any motivation for doing so. Perez is directed to charged, high-strength, high-modulus, melt-processed microfibers having a microfibrillated surface. This is achieved by using microfibrillated polymeric fibers having a rectangular cross-sectional shape. In order to modify Pierce to produce a filter media having the claimed surface area, one would have to not only replace the glass fibers of Pierce with the polymeric fibers of Perez, but would also have to essentially replace the method of Pierce with the method taught by Perez. In other words, the teachings of Pierce would have to be entirely ignored, and one would have to simply make the filter media taught by Perez. Perez, however, does not disclose the use of glass wool fibers, much less a filter media having the claimed gamma value. Accordingly, Perez does not remedy the deficiencies of Pierce.

Head

Head likewise does not remedy the deficiencies of Pierce. The Examiner relies on Head to disclose a fiber density of about 0.15 to 0.25 g/cc, arguing that it would have been obvious to modify

Pierce in view of Head to produce a filter media having an apparent density as recited in claim 8. The Examiner has, however, overlooked the language of claim 8, which recites that the filter media have an *apparent* density of at least about 0.1μ to 4.5μ . The apparent density of a filter media is not the same as the fiber density of the fibers used to form the filter media. The apparent density is determined based on the thickness and the basis weight of the resulting filter media, whereas the fiber density is more like the specific gravity of the individual fibers used to form the filter media. Accordingly, Head does not remedy the deficiencies of Pierce, Dong, and Perez.

Moreover, as discussed above with respect to modifying the surface area of a filter media, the apparent density cannot merely be "set" to a specific value as desired. It has to be obtained. A person having ordinary skill in the art cannot merely rely on Head, or any other reference, to teach a certain apparent density, and then merely decide to produce a filter media having that density. To the contrary, they would have to modify the process and/or materials based on the teachings of the prior art to form a filter media having the desired apparent density. The Examiner has failed to explain how Pierce would be modified to arrive at the claimed apparent density, and has failed to provide any motivation for doing so. Moreover, in order to modify Pierce to produce a filter media having the claimed apparent density, one would have to ignore the teachings of Pierce and make the filter taught by the prior art.

Conclusion

In view of the above remarks, Applicant submits that all claims are in condition for allowance, and allowance thereof is respectfully requested.

Respectfully submitted,

Date: Dec. 13, 2006



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